Supermarket-style bar codes coming soon to med packages

FDA rule to help hospitals improve patient safety

Hospitals will soon be able to scan bar codes—similar to those found in the retail setting—on patients’ wristbands and medication containers to ensure they receive the right drugs and the right doses.

The FDA announced February 25 its final rule requiring manufacturers to place bar codes on most prescription and over-the-counter drugs as well as blood products within two years. New drugs must have bar-code labels within 60 days of FDA approval.

The final rule becomes effective April 26 and calls for manufacturers to place the medication’s National Drug Code number, which identifies the drug, on the bar code. Companies may also include the product’s lot number and expiration-date information, although those are not required.

The rule does not require hospitals to implement bar-code technology, although it opens the door for them to do so, says Kasey Thompson, PharmD, director of the practice standards and quality division for the American Society of Health-System Pharmacists (ASHP) in Bethesda, MD.

“It’s a big win for patients,” says Thompson. “I think the hospitals will soon be able to scan bar codes—similar to those found in the retail setting—on patients’ wristbands and medication containers to ensure they receive the right drugs and the right doses.

Radio waves to help hospitals track, control drug supply

FDA hopes new technology will stem counterfeit flood

New technology will allow pharmacies to track drugs through the supply chain and protect themselves against counterfeiting.

The FDA on February 18 recommended that drug manufacturers and distributors place radio frequency identification (RFID) tags on drug packages. RFID chips embedded in drug labels would provide an electronic drug pedigree, telling distributors and pharmacists where the drug was manufactured, who shipped it, and which wholesalers purchased it.

The use of track-and-trace technology was one of eight recommendations from the FDA’s counterfeit drug task force. Counterfeit-drug cases increased from four in 1998, to 22 in 2003, mainly because improved technology has
Bar codes

force of law puts a bit of pressure on the healthcare community to implement this [system].”

Add a double check

With a bar-code system, a nurse scans a patient’s wristband, bringing up the patient’s list of medications. The nurse would then scan the medication before giving it to the patient. If the medication does not match the patient, the computer would alert the nurse.

“Everyone has been looking at this ruling as the magic bullet, and hopefully it will be,” says Michael Hoying, RPh, MS, pharmacy director at Fairview Hospital in Cleveland. “In the hospitals that have done it, a lot of nurses love having that double check. I think a lot more hospitals will consider it.”

The Veterans Affairs (VA) Medical Center in Topeka, KS, using a bar-code system allowed staff to administer 5.7 million doses of medications without an error, according to a government study (see how the VA used bar coding at the bedside on p. 4). The FDA hopes bar codes will prevent nearly 500,000 adverse events within the next 20 years if more hospitals purchase systems.

“Hospitals will start using this as a PR tool, saying,

Source: FDA. Reprinted with permission. For more information, visit www.fda.gov/oc/initials/barcode-sadr/.

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'Look at what we’re doing to improve medication safety,' "Thompson says.

**Upgrade your technology**

Hospitals would have to make capital-improvement upgrades to start a bar-code system, Thompson says. They would need new databases to store the patient and drug information and printer systems to print bar codes for patient wristbands.

Hospitals also need a telecommunications system to transmit data from the bar codes on patient wristbands and medications to the computer system, Hoying says. Rewiring an old building could be expensive, but hospitals could consider this type of technology upgrade if they build new facilities or add to existing facilities, he says.

The cost of upgrading infrastructure and building a bar-code system depends on the hospital’s size, Thompson says. Building a bar-code system generally costs less than a computerized physician-order entry system, he says. A system could cost between $200,000 and $1 million, depending on the size and age of the building, according to bar-code manufacturer Bridge Medical, Inc.’s Web site, www.bridgemedical.com.

**Watch the unit-dose packages**

The rule requires bar codes on unit-dose packages such as blister packages, which come ready to give to the patient. Placing bar codes on unit-dose packages is more difficult because the packages are smaller, Thompson says.

Federal law does not require manufacturers to sell drugs in unit-dose packages. Manufacturers could stop selling unit-dose packages to avoid placing bar codes on them, but that seems unlikely from a business standpoint, Thompson says.

**Lot numbers not required**

ASHP is concerned that the rule does not require manufacturers to include lot numbers or expiration dates in the bar code, Thompson says. Those two pieces of information are important because they could help a hospital track recalled or expired drugs, further increasing patient safety.

“The reason [lot numbers and expiration dates] are required in readable form on the label is for recalls,” Thompson says. “Why not include it in electronic form?” Without the lot number and expiration date in the bar code, there is no electronic inventory record in the hospital’s database. “I can’t call you up and say we’ve given you a drug that’s been recalled,” Thompson says.

Editor’s note: This story is an expanded version of an e-mail alert sent February 25. If we had your e-mail address, you would have been among the first to receive this news. To ensure that you get timely news updates, please call customer service at 800/650-6787 or e-mail customerservice@hcpro.com to update your contact information.
One Veterans Affairs (VA) hospital reported as much as an 85% decrease in wrong-time medication errors after it began using bar codes in the medication-administration process.

Colmery-O’Neil VA Medical Center in Topeka, KS, piloted the VA bar-code system in 1997. The hospital was already using its own rudimentary bar-code program on one ward when the VA gave its equipment to the hospital to test before going nationwide in 1999, says Jeff Ramirez, PharmD, chief of management and clinical information systems for VA pharmacy benefits management.

“The hospital completely adapted it to their program,” Ramirez says. “Not only did they do it for one ward, they did it for the whole hospital.”

The result was not only a major reduction in wrong-time errors—administering medication at a time other than the one specified on the order—but the hospital also distributed 5.7 million medication doses without any errors, Ramirez says.

“[The hospital] completely adapted it to their program,” Ramirez says. “Not only did they do it for one ward, they did it for the whole hospital.”

The VA needed to change its standards to accomplish the wrong-time error reduction. Nurses originally had 30 minutes before or after an administration time to give patients medication. But a 30-minute window made it difficult to deliver many different medications to the VA’s patient population.

The VA changed its medication window to 60 minutes before or after an administration time, allowing nurses more time to get medications to a patient. The bar codes allow nurses to identify the correct drug for the correct patient while ensuring that the patient receives the drug at the correct time.

“We stuck the bar code in there as a final check,” Ramirez says.

Get nurses on board
The VA needed to teach nurses how to use the bar-code scanners. The system only works if nurses cooperate and follow the procedures, including reporting when the bar code on a patient’s wristband did not function properly, Ramirez says.

Nurses quickly adapted to the system at the VA, Ramirez says. Nurses at Colmery-O’Neil volunteered to go to the ward using bar coding because they believed it was easy to use and provided an additional check before giving medications to the patient.

“It was a multidisciplinary effort at each institution,” Ramirez says. “It still had to be done at the grass-roots level at every facility.”

Evaluate your facility’s infrastructure
The VA spent almost $60 million to build bar-coding systems at its 173 facilities nationwide, Ramirez says. That cost includes building a wireless network and acquiring hardware and software for a main server.

The VA planned bar-coding initiatives as early as 1992, Ramirez says. The agency needed to wait for the appropriate technology to be developed, including wireless systems so nurses could carry handheld scanners instead of ones attached to computers.

Hospitals would also need to conduct engineering studies to see how a wireless network would function in their facilities. For example, a campus-style facility that is more spacious would not require as many wireless connections because the signal could travel farther than in an older, smaller hospital.

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allowed criminals to fake holograms and dyes used in the manufacturing process, according to the FDA.

“The United States has one of the safest drug supplies in the world,” FDA Commissioner Mark McClellan, MD, PhD, said during a press conference February 18. “But we are seeing more sophisticated criminals. There is no single magic bullet to combat this threat.”

The FDA will not require manufacturers to place RFID tags on drug packages, although it may propose new regulations once the pharmaceutical industry has more experience with the technology, according to the report.

See the eight task force recommendations on p. 7.

**How it works**

RFID chips could be about as small as the dot on the letter “i,” says Mary Shepherd, PhD, a professor of pharmacy administration at the University of Texas at Austin. The chips send information to a computer system about the type of drug in the package and the travel history of the drug.

Each RFID chip will contain an electronic product code (EPC) for the drug, says William Hubbard, FDA senior associate commissioner for policy and planning. The EPC will uniquely identify each drug and tell pharmacists where the drug was manufactured and distributed.

For example, say a drug is manufactured in Virginia. The manufacturer records the drug name, dosage, and EPC into the RFID chip, Hubbard says. The drug then is sold to a South Carolina wholesaler, which records into the chip that it received the drug.

The wholesaler then sells the drug to a pharmacy in Texas. The wholesaler records on the chip the date the drug was sold. The pharmacy will be able to see how the drug traveled through the supply chain. Pharmacists will also have the ability to question the product’s authenticity if they do not receive

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**Counterfeit**

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**RFID timeline**

Expect manufacturers and hospitals to adopt radio-frequency identification (RFID) technology by 2007 as a method to track and trace drugs through the supply chain, according to the Food and Drug Administration (FDA). Check out the following timeline to see when you can expect the technology to affect your job:

**2004**
- Performance of mass serialization feasibility studies using RFID on pallets, cases, and packages of drugs

**2005**
- Mass serialization of some pallets, packages, and cases of drugs at a high risk of being counterfeited
- Acquisition and use of RFID technology—including the ability to read and use information contained in RFID tags—by some manufacturers, larger wholesalers, large chain drugstores, and some hospitals

**2006**
- Mass serialization of most pallets, packages, and cases of drugs likely to be counterfeited and some pallets and cases of other drugs
- Acquisition and use of RFID technology—including the ability to read and use information contained in RFID tags—by most manufacturers, most wholesalers, most chain drugstores, most hospitals, and some small retailers

**2007**
- Mass serialization of all pallets and cases of drugs and most drug packages
- Acquisition and use of RFID technology—including the ability to read and use information contained in RFID tags—by all manufacturers, all wholesalers, all chain drugstores, all hospitals, and most small retailers

Source: FDA. Reprinted with permission.
Counterfeit

the drug from the South Carolina wholesaler, Hubbard says.

When a pharmacy dispenses the drug, the database will close out the serial number, says Alan Goldhammer, associate vice president of regulatory affairs for the Pharmaceutical Research and Manufacturers of America (PhRMA). If someone attempts to sell a product using that serial number, the database will alert distributors and pharmacists that the serial number has already been used and the drug could be counterfeit.

“It would provide an electronic pedigree that would ensure authenticity,” Goldhammer says.

New equipment needed

Hospitals will need to purchase radio receivers to pick up the RFID signal, Shepherd says. Standardized RFID chips should provide the same signal, which means hospitals will not have to purchase separate receivers for different medication brands.

“They should be fairly standard, so you don’t have four different signals coming from four different manufacturers,” Shepherd says.

Hospitals will also have to train staff to use the RFID readers and computer systems if they decide to use RFID technology, Shepherd says.

Costs unknown

Costs to hospitals for purchasing receivers and computer systems to read the RFID information are uncertain at this time, says Douglas Scheckelhoff, MS, RPh, director of pharmacy practice sections for the American Society of Health-System Pharmacists in Bethesda, MD. The chips themselves could cost between 5 and 10 cents, he says.

PhRMA is currently working with other trade associations and the Healthcare Distribution Management Association on a white paper for the FDA, Goldhammer says. The paper will outline the business needs for electronic track-and-trace technology, including an analysis of how manufacturers and hospitals should implement the technology.

The paper is due to the FDA in April, Goldhammer says. The FDA recommendations do not say which type of network will transmit the information or where the information will be stored.

The federal government will not be responsible for maintaining the database, Scheckelhoff says.

“How these systems will be linked and where these data will reside still needs to be figured out,” Scheckelhoff says.

Tracking inventory

RFID technology will also give pharmacies the ability to control inventory, Scheckelhoff says. The database will allow pharmacies to

- screen for outdated products
- monitor theft
- track products through the hospital

For example, pharmacy staff could check the database and track whether they have a recalled or expired drug in stock.

“You could potentially get a lot of benefits out of this,” Scheckelhoff says. “The goal is to improve the security of the supply chain. RFID will enable that process.”

Editor’s note: For more information, visit www.fda.gov/oc/initiatives/counterfeit/. Check out future editions of HPRR for more updates on anti-counterfeit technology and how it may affect you.
Eight ways to stop counterfeit drugs

**FDA counterfeit-drug task force makes recommendations**

1. Use new technologies, including electronic track and trace, color-shifting inks, holograms, and chemical markers
2. Adopt electronic track-and-trace technology to accomplish and surpass the goals of the Prescription Drug Marketing Act
3. Adopt and enforce strong anti-counterfeit laws in each state
4. Increase criminal penalties to deter counterfeiting and punish those convicted
5. Adopt secure business practices throughout the drug-supply chain
6. Develop a system that helps ensure effective reporting of counterfeit drugs to the FDA and strengthens the response to such reports
7. Educate consumers and healthcare professionals about the risks of counterfeit drugs and how to guard against these risks
8. Work with foreign stakeholders, including the World Health Organization, International Criminal Police Organization and other international public health and law enforcement organizations, to develop worldwide strategies to combat counterfeit drugs

*Source: FDA. Reprinted with permission. For more information, go to www.fda.gov/oc/initiatives/counterfeit/.*

Three tips to help stop staff from using unapproved abbreviations in medical records

**Check more than just medication orders for banned items**

Pharmacy staff usually catch the JCAHO’s unapproved abbreviations on medication orders. Make sure someone in your organization checks medical records for the unapproved abbreviations as well.

Although unapproved abbreviations may appear most frequently in medication orders, the JCAHO bans nine abbreviations in all clinical documentation, including the patient’s medical record. In November 2003, the JCAHO issued its list of nine dangerous abbreviations, acronyms, and symbols. Surveyors will look for 90% compliance in 2004.

In April, hospitals must add three abbreviations to the JCAHO’s original list of nine if they do not already ban more than just the JCAHO’s list. Check out the JCAHO’s National Patient Safety Goals frequently asked questions at [www.jcaho.org](http://www.jcaho.org) for more information.

Unapproved abbreviations may appear in numerous clinical documents, says Liese Harter, quality improvement specialist at Meriter Hospital in Madison, WI. They include

- patient profile and nursing-admission assessment
- anesthesia history
- blood-glucose monitoring flow sheets
- medication-administration record
- progress notes

“We’re considering how to get the message out to the many practitioners involved with patient care,” Harter says. “There are so many places where abbreviations are commonplace.”

The following are three ways you can improve compliance with the JCAHO’s requirement.
Unapproved abbreviations

1. **Conduct a chart audit**
   Staff at Nason Hospital in Roaring Spring, PA, review approximately 60 patient records each quarter for unapproved abbreviations, says Faith Neal, patient-safety officer, privacy officer, and health information management director. A team of pharmacists, dieticians, nurses, lab staff, and others look at patient charts from all different units.

   When staff find an unapproved abbreviation in a patient’s record or a medication order, they send a copy of the page to the person who wrote the abbreviation with a reminder not to use it again, Neal says.

   The review began more than a year ago as a one-time pharmacy audit of medication orders. But the process was too time-consuming to conduct in addition to the pharmacy’s daily tasks, so the hospital incorporated it into the organization’s chart review, Neal says.

2. **Use real-life examples**
   There does not seem to be any well-known, accumulated data linking unapproved abbreviations to medication errors, says Amanda Borgsdorf, MHSA, coordinator of the Madison Patient Safety Collaborative in Madison, WI. The collaborative is a consortium of hospitals and clinics, including Meriter Hospital, working to improve patient safety.

   Presenting physicians and staff with real-life examples that link medication errors to unapproved abbreviations is the best way to make them comply with the JCAHO requirements, Borgsdorf says.

   “It really just boils down to reminders,” Borgsdorf says. “What works the best is if you can remind them at that instance.”

   Nason Hospital’s pharmacist leads a monthly patient-safety forum, and if an incident occurred involving a medication error and an abbreviation, that would become a discussion topic at the forum, Neal says. “We haven’t had many,” Neal says of unapproved abbreviation–related medication errors. “If we were to say, ‘In [the medical-surgical ward], this happened last week and we don’t want it to happen to you,’ they are more likely to listen.”

3. **Provide friendly reminders**
   Meriter Hospital gave physicians and nurses pens that had the unapproved abbreviations list printed on them. Physicians and nurses see the abbreviations every time they write an order or make an entry into the medical record, Harter says.

   The pens provide a constant reminder for staff, Borgsdorf says.

   “What can we get in their line of sight at that moment?” Borgsdorf asks. “Maybe since they’re writing with the pen, they’ll see it that way.”

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**Upcoming events**

**Audioconferences:**

- **4/7/2004**—Private pay or Medicare pricing: Comply with the OIG billing rules
- **4/13/2004**—Get the scoop on the 2004 JCAHO survey from three facilities
- **4/21/2004**—Medicare outpatient services: How to comply, prevent denials, and get paid
- **4/29/2004**—First year of HIPAA privacy enforcement: Mistakes, myths, and measures

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Philip Strong, MD, has good reason for supporting computerized physician order entry (CPOE) and automated medication dispensing.

Strong, a hospitalist with Camino Medical Group in Mountain View, CA, had a patient in the emergency room at El Camino Hospital who was in septic shock from a bacterial infection. Strong pulled up the patient’s information on the ambulatory-records system, which said the patient did not have any allergies.

The patient did not recall being allergic to any medication, so Strong ordered the antibiotic Zosyn while the patient was on his way to the operating room for emergency surgery.

Strong then received a call from the pharmacy. As the pharmacist reviewed the order, El Camino’s system noted that the patient had a penicillin allergy, and the patient could suffer a reaction if he received Zosyn. Strong changed the order to a nonpenicillin antibiotic before the patient received any medication.

“That’s the first time in 10 years that ever happened to me,” Strong says. “This speedy intervention was only possible because the pharmacists were reviewing all orders and all orders are routed hospitalwide by the CPOE.”

In the final quarter of 2003, El Camino Hospital’s pharmacy made 1,100 clinical interventions with the help of CPOE and automated medication dispensing, says Mark Zielazinski, the hospital’s chief information officer. Those interventions have reduced errors and saved the hospital $120,000 a year in drug-utilization costs.

Get more orders out
El Camino was the first hospital in the world to develop a CPOE system, coming online in 1969 with the help of Lockheed and the Department of Defense, Zielazinski says. Computer terminals at every nursing station and other locations throughout the hospital allow prescribers to enter a medication order for a patient.

In March 2003, El Camino integrated its CPOE with its Pyxis automated-medication dispensing system, says pharmacy director Mei Poon, PharmD. Now when an order comes into the pharmacy, pharmacists check the order for any potential drug interactions or other complications. They then send the order electronically to the dispensing machine, where a nurse or other authorized caregiver can retrieve the patient’s medication.

“This system allows us to review and dispense medications within 15 minutes,” Poon says. “All pharmacists are now doing electronic reviews.”

El Camino Hospital has been able to reduce that turnaround time even more, Poon says. Pharmacists typically review orders in seven minutes.

Reduce your error rates
Prior to integrating the CPOE with automated medication distribution, El Camino pharmacists only made between 300 and 400 clinical interventions per quarter, Zielazinski says. The integrated computer systems allow pharmacists to make quick and effective checks, increasing the number of medication orders the pharmacy can process and allowing it to catch and prevent more potential errors.

Zielazinski estimates that the hospital spent $400,000 to integrate CPOE with the Pyxis system. With medication errors typically occurring at a rate of four to six for every 1,000 patient days, eliminating only one will help the hospital pay for the system, he says.

“Let’s say an error costs $4,000,” Zielazinski says. “If you’re doing 4,800 clinical interventions annually, and only one percent results in stopping an error, we’ll have paid for the costs. We can take out one or two errors [per 1,000 patient days] with the system.”
Survey monitor

JCAHO checks medication security during survey

One east Texas hospital changed how it monitors narcotics after its JCAHO survey in January.

JCAHO surveyors scrutinized how Henderson (TX) Memorial Hospital reviews narcotic records in the intensive-care unit (ICU) and skilled nursing facility (SNF), says pharmacy director Ted Raines, RPh. Surveyors also wanted to know how often staff checked narcotic discrepancy reports for drug waste or theft and how the pharmacy reviewed after-hours medication orders.

Surveyors traced patient care by using select medical records and visiting the units that cared for the patients. For example, surveyors followed one patient backward through her entire stay, from her SNF treatment back through the medical-surgery ward to the operating room (OR) to the emergency room and her ambulance ride.

From these patient tracers, surveyors asked staff questions about issues that may arise during a patient’s stay, including

- medication security

- medication distribution

- after-hours medication access

“Medication security was their big thing,” Raines says. “It was an intense three days.”

Check your narcotic records

Henderson Memorial Hospital’s ICU and SNF are the only two units that do not have Pyxis automated medication-storage cabinets, Raines says. Nurses sign out narcotics using inventory sheets, and nursing staff review them at the end of every shift to make sure the drugs listed on the sheet match the drugs taken from the unit’s stock.

Surveyors wanted to know how often Raines personally inspected the narcotics records. “They expect me to go down there periodically to do the counts,” Raines says. “I said, ‘I can’t be there all the time. I trust the nurse.’ [The surveyor] said, ‘I don’t think that would hold up in court.’ ”

Tip: Check narcotic records monthly if your hospital does not use an automated dispensing system for narcotics.

As a result of the survey, Raines will now check the narcotics records once a month on the ICU and SNF units. Henderson Memorial Hospital will install Pyxis systems in those two units in the coming months, which will eliminate the need for paper-based narcotics records.

The hospital planned to install Pyxis on those two units before its survey, but the process hadn’t been complete by the time the surveyors arrived, Raines says.

Check frequently for discrepancies

JCAHO surveyors also scrutinized how the pharmacy checked narcotic-discrepancy reports. The reports help the pharmacy determine whether drugs are missing, stolen, or wasted, Raines says.

Surveyors recommended that Raines and his staff run weekly reports on the hospital’s Pyxis system to check discrepancies in the stock’s narcotic inventory. These reports outline which nurse checked out the narcotic and when the nurse took it from

About the facility: Henderson (TX) Memorial Hospital is a 96-bed facility. The hospital has served Rusk County in eastern Texas since 1928. The organization also has a skilled nursing facility for rehabilitation and physical therapy. The hospital’s pharmacy is open from 7 a.m. to 6 p.m.
the Pyxis cabinet.

Pharmacy staff will be able to see whether there is a large amount of narcotic waste and look for trends to see whether someone is stealing narcotics.

**Label your syringes**

Make sure you focus on medication distribution and labeling. One nurse anesthetist in the OR inserted medications into an intravenous solution without labeling the different syringes, Raines says.

One of the surveyors asked the nurse why he did not label the syringes. The nurse explained the syringes would never leave his hand.

The surveyor argued that if he were to get called out of the OR for a minute and put down the syringes, another nurse will not know which medication is in the different syringes.

**Tip:** Label each syringe if a nurse does not administer the medication immediately.

**Define your after-hours access policy**

Henderson Memorial Hospital’s pharmacy opens at 7 a.m. and closes at 6 p.m. Surveyors wanted to know how pharmacy staff verified after-hours medication orders and how long it would take for a pharmacist to review those orders, Raines says.

A house supervisor has a key to the pharmacy and is allowed to access medications after the pharmacy closes, Raines says. A pharmacist may not review the order for up to 12 hours later if the order is filled soon after the pharmacy closes.

The hospital’s after-hours policy pleased the surveyors, Raines says. Having a defined access policy made it easy to explain how the hospital handles after-hours access.

“They realize this is a small, rural hospital and this is the way it’s going to be,” Raines says.

**Tip:** Have a defined policy for after-hours access and pharmacist review of late-night orders if your pharmacy is not open 24 hours. Make sure all pharmacy and nursing staff know about the policy.

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**Six surveyor questions all pharmacy staff should know**

Check out the following six questions that surveyors asked pharmacy staff at Henderson (TX) Memorial Hospital during its January survey:

1. What is your turnaround time on medication orders?
2. How do you handle adverse drug events?
3. How do you handle medication orders?
4. What happens to medication order reports?
5. How do you handle after-hours pharmacy access?
6. How long does it take for a pharmacist to verify an after-hours medication order from a supervisor?

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**Survey at a glance**

**Hot spots:** Medication security, medication distribution, labeling medications, after-hours pharmacy access.

**Critical advice:** Check narcotic records frequently—at least monthly—if your hospital does not use an automated dispensing system for narcotics.

**Survey tip:** Make sure you define your pharmacy’s policies and staff understand them. This will help when surveyors ask staff questions during the survey’s tracer portions.

**Quote of note:** “Medication security was their big thing. It was an intense three days.”
Quick tip: In a high-alert medication pinch? Create a double-check system

Get nurses to understand the importance of having a colleague double check high-alert medications before giving them to patients. Creating a PINCH high-alert medication list to tell nurses which orders they need to double-check before they administer drugs is one way to get the point across.

Many hospitals have created versions of a PINCH list to help nurses remember high-alert medications. **Robin Keyack, RPh,** assistant vice president of pharmacy services for Virtua Health, a four-hospital system in New Jersey, says her organization’s list stands for the following:

- Patient-controlled analgesia
- Potassium challenges
- Insulin drips
- Narcotic drips
- Chemotherapy
- Heparin drips

When nurses give out a drug from this list, another nurse must double check the order, Keyack says. Nurses must double check the medication and the order at four different stages, including

- when they hang the intravenous (IV) bag
- when they change the IV bag
- when the medication-administration rate changes
- when the patient is transferred to another unit

Educate nurses and other staff about your PINCH list. Virtua Health circulates the Institute for Safe Medication Practices’ newsletter, which often contains information about high-alert medications, and provides ongoing in-services for nurses, Keyack says.

“It [education] might be telling a nurse, ‘You have to double check heparin,’ ” Keyack says. “Why? It’s important staff understand what can happen when the system fails.”

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